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RUSH & WELLS,
Attorneys at Law,
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PAUL WEBER,
Attorney and Counselor at Law,
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Topolovampo Bay.

Mr. Editor.—Do not be frightened at the long name which heads this article, it is innocent enough, it represents a bay on the Pacific, which, when the iron horse reaches it via Austin, Texas will throw the splendid harbor in the Bay of San Francisco into the shade.

This bay is to Sonora and Chihuahua what the Bay of San Francisco is to the Silver State of the Sierras.

Sonora and Chihuahua, the most salubrious of any of the states of Mexico, are wonderfully rich in precious metals. If the product of our western states could be transferred to those Mexican states, and exchange for the precious metals waiting such exchange, Mexico would not send, as now, \$30,000,000 in coin annually to England in exchange for the very things we raise or manufacture. England practically monopolizes a trade of many millions that properly belongs to the United States. I know of one company that purchased expensive machinery in Chicago and transported it with ox teams 700 miles from San Antonio to Parral, Chihuahua. A railroad reaching out toward that rich mineral region would accelerate mining operations, make a great outlet for mining machinery, and open up to this great country another channel hitherto unoccupied, and in the direct line of the grand old Monroe doctrine as to this continent.

Do our shrewd business-men realize the astounding fact that from official sources in Mexico, scratched only on the surface, without any machinery except their little arrastras and adobe furnaces, from the conquest up to 1836, two and one half billions of precious metals have been actually mined in that sparsely settled country? Give to northern Mexico a railroad and our improved methods of mining, and the United States will speedily lead the civilized world in wealth and splendor.

No improvement in this land will produce such rapid and satisfactory results. No enterprise can our government encourage that will bring such rapid returns. A highway to the South Pacific will give us, in exchange for our machinery and products, coffee, sugar, tropical fruits, precious metals, and reach out into a country where at one time in its history iron was nearly as expensive as silver,—where to-day many of the plows are wood, and mines are worked by rude wooden ladders, up which for hundreds of feet laborers carry the ore in sacks fastened to their shoulders or strapped across the forehead. If with such mining, billions of money are produced, what would be the result of an American railroad pushing out, our Rocky Mountain prospectors and our improved machinery followed up in quick succession by our business enterprise and capital? It is marvelous to investigate the possibilities that open before us in the wonderful future that lies before this country, if it can secure to itself the advantages that wait on every hand intelligent development. Congress has power to speak the magic word, and send a thrill of life into that dead country, and do much to solve the vexed problem of labor for the idle masses; much to foster national commerce, and hence

national union. It is when a nation begins to rust that revolutions begin to hatch.

The route from Austin, Texas, to Topolovampo Bay is not a difficult one; a survey will demonstrate not only its feasibility, but demonstrate that it must be a profitable investment; the general government taking the initial step to foster and encourage the examination, will be a great source of power to any company that may organize to undertake the work.

It is to be hoped, by those at least who know something of the importance of this work, that the Mexicans may wake up some morning to find an American surveying party staking off a city on their beautiful bay, to be soon occupied by the class of men that make commerce bloom, and send the warm life-blood of this Yankee nation out in every new channel promising good returns; then furnaces and mills will go full as fast as the railroad pushes out into the mining belt, and general activity and peace where idleness and discord now reign. Let congress settle the border question with Mexico by pushing bands of steel out to the beautiful Bay of Topolovampo.—Ex.

Dry Amalgamation.

The plan of dispensing with the use of water in effecting the amalgamation of quicksilver with the precious metals, appears to be growing in favor with our mill-men and practical metallurgists. Ever since the attention of the mining public began to be strongly called to the advantages of this method through the partial introduction of the Paul process for crushing and amalgamating the ores of gold and silver wholly dry, it has been gradually working its way into a large use. That this should have been the case is not surprising. When we consider the percentage of loss that attends humid amalgamation, it seems strange that the dry plan has made so little progress, its superiority having been so clearly proven through the many successful trials of the Paul invention.

From Mark Silver, a young man who has had a good deal of experience in milling ores, we learn that one of the Paul crushers, supplemented by a novel method of amalgamation, has been employed for the past six months with gratifying results in the mill of Chas. D. Smyth, at Murphy's Camp, Calaveras county. The ore here, after being pulverized and brightened in the manner peculiar to the Paul machine, is dusted on a copper-plated mercury-coated cylinder which revolves in a dust proof chamber. The instant the gold so brightened touches the quicksilver it is taken up even to the finest atom, while the base metals and all other refuse matter are rejected and thrown into the stream below none of these latter during their brief contact being able to attach themselves to the surface of the revolving cylinder. For the purpose of cleaning up, a lathe rigged with a hard piece of rubber is brought to bear against the cylinder while in motion, relieving it effectually and so readily of the amalgam that a delay of five minutes suffices for cleaning up the mill. With the aid of these appliances gold-bearing quartz has been worked in large quantities with much greater closeness than it is possible to do with arrastras; and so manifest are the

advantages of the mechanisms here employed that a great revival in quartz mining is likely to ensue in the district mentioned. The miners in the neighborhood are bringing in their ores freely to Mr. Smyth's mill to have them reduced by the new method, preferring to pay from six to seven dollars per ton to have them so treated rather than crush them free of charge in their own arrastras, or pay even so much as two or three dollars per ton for having them worked in the old-style quartz mills. The ores here being usually of good grade they can well afford to pay this difference, as Mr. Smyth returns them fully 30 per cent. more gold than they can get having their ores treated by any other process. From some lots of ore reduced at this mill highly satisfactory returns were obtained, though they were so base that they could not be worked with any profit where amalgamation with water was practiced.

This experiment has created a demand for a 20-stamp custom mill at this nearly defunct camp, and so much new life has this improved prospect infused into the miners that there will probably be as much as forty or fifty additional stamps required there within the next six months. The cost of outfitting and running this is not greater than of the old-style mills—indeed, we suppose it is somewhat less.

Almarin B. Paul, the originator of the process that bears his name, has well explained in his pamphlet descriptive of the same the advantages of amalgamation by the dry method as well as the greater cheapness of the machinery employed in its practice, which latter he argues commends strongly his plan where economy in preliminary expenditure becomes a controlling consideration. That mercury when performing this office of gathering up and holding the precious metals should be used without the intervention of water would be inferred irrespective of results reached in practice. The disposition that exists between these several metals to unite being due to affinity or attraction, that the interposition of a bad conductor like water should tend to weaken that power tends to reason. Overman, a high authority in chemical and metallurgical science, remarks on this point as follows: "All metals appear to have a tendency to float in water, when in fine particles, some more than others. This is caused by a particle of gas—either air or water gas—adhering to the particles of metals, which causes them to float. Precious metals appear to possess more of this quality than others."

Taking up the hint contained in the above extract, Mr. Paul enlarges upon it in substance as follows: Water adheres tenaciously to whatever it touches. Through its use in amalgamating we put in the first place a jacket of water about every atom of mercury and gold and silver, whereby their metallic surfaces are kept from actual contact, and then proceed to agitate and grind them with a view to destroying this covering and compelling them to unite. Now water is repulsive to the precious metals and no union can take place between them except forced by gravity or friction. But this friction produced between from

surfaces tends to eliminate the repulsive elements that reside in all ores, and being so brought out coat with a gaseous film the precious metals they contain, and so place a barrier between them and the mercury. In dry amalgamation the mercury comes in direct contact with the particles of metal, and of course performs its duty with greater efficiency.

The Scalpers.

In as much as several of the New Mexican papers since the recent raid at Clifton have persistently averred that the renegades were San Carlos Indians we will make a statement showing how far those scalpers were identified with the agency, hoping that after reading our verification of "the truth of history," they will be induced to give Agent Hart a rest.

In September or October, 1878, Agent Hart was notified that the Warm Spring Apaches had surrendered to the military. He at once informed the military authorities of his readiness to bring them back to the San Carlos reservation and made his preparations accordingly. In November, to his surprise, he was informed that 172 of the tribe were at Camp Apache and was requested to send for them. It was then ascertained that only 22 of the number were bucks, the balance of the men that originally started for San Carlos having abandoned their military escort en route and remaining on the war path for some length of time, but finding their occupation unprofitable they again surrendered to the military at Fort Stanton, N. M. In some time last May, Agent Hart received a dispatch stating that some of the band had again escaped from the troops and were supposed to be moving towards San Carlos with the intention of running off their wives and families. Two nights after receipt of the dispatch, fifteen of the band came on the reservation near the branch agency, but were unsuccessful in their attempt at regaining possession of their families on account of their having been moved close to the main agency and put under strict surveillance. Some of the Chiricahua Indians of their own accord gave the information to the troops at Camp Thomas and they were sent out after them, but accomplished nothing. These Indians will undoubtedly make another attempt at regaining their women, and there will be no peace nor safety on the road between San Carlos and Ojo Caliente, a distance of about three hundred miles, until the military either kill or capture them or invite the co-operation of the San Carlos Indian scouts whom we think would soon bring them to grief provided they were well provisioned and instructed to freeze to the trail.—Silver Belt.

New Mining District.

Evergreen is the name of a new mining district about twenty miles northwest of Tucson and but four or five miles south of the line of the railway. It embraces the low mountains about Point of Mountain and the westward. There is no limit to the ore in the district, and its nearness to the railway must make it valuable, even if not of high grade. Not much in the way of development has yet been done, but some work has been going on for a couple of months past with an encouraging showing. Judge J. Neugass, John W. Davis and some others have been expending money and labor out there, and they are quite content with the prospects, and feel sure that on the completion of the railway no trouble will be found in getting men of means to aid in operating the mines.—Citizen.

The San Diego Union attempts to thrust a pin through the Guaymas railroad bubble. It says: "The long and short of all this is that certain Jeremy Diddlers have a Mexican land property to sell in the Eastern market and are bailing for gringos. Guaymas is an insignificant little landing for light-draft steamers, near the head of the Gulf of California. As to the 'land grants' talked of, they are not worth 5 cents an acre."—Semi-Tropic.

Poor San Diego is still suffering from its very severe attack of tom-scottitis, in fact it has become chronic. How much per acre are the grants of water front, etc., etc., deeded unconditionally to Tom Scott individually worth to-day?

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